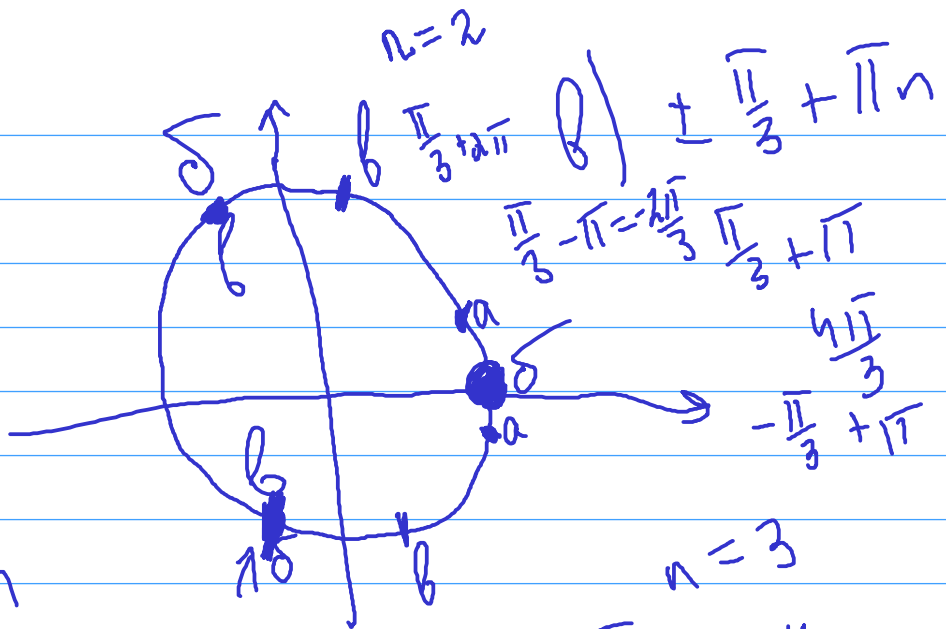


M. 16



$a \pm \frac{\pi}{6} + 2\pi n$

$-\frac{4\pi}{3}$

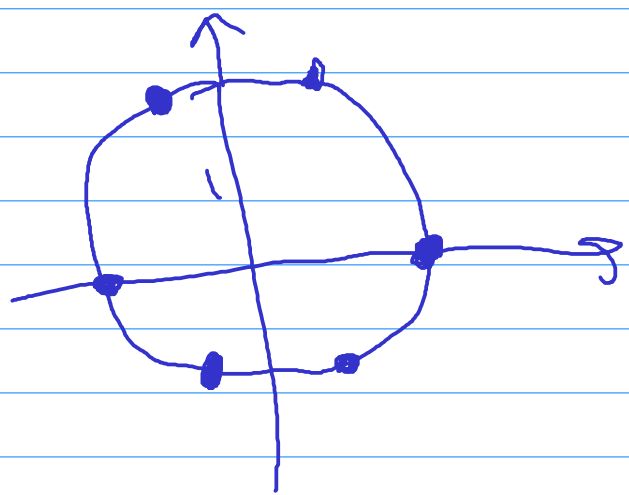
$\frac{2\pi n}{3}$

$\frac{6\pi}{3} = 2\pi$

$\frac{4\pi}{3}$

$n=4$

$\frac{2\pi \cdot 4}{3} = \frac{8\pi}{3} = 8$



$a=0$

$\frac{\pi \cdot 2}{3}$

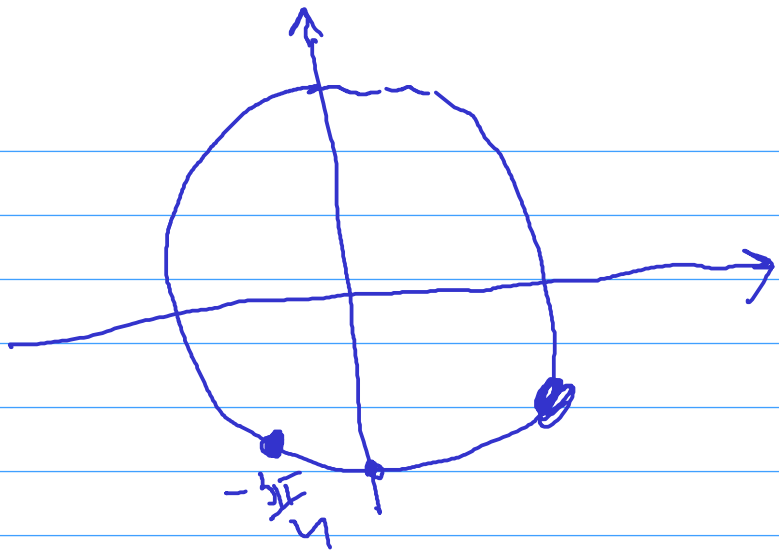
$n=2 \quad \frac{2\pi}{3}$

$n=3 \quad \pi$

$n=5: \frac{5\pi}{3} =$        $n=4 \quad \frac{4\pi}{3}$   
 $n=6: \quad 560 = 300$   
 $n=6: \quad 2\pi$

11.7(2)

$$-\frac{3\pi}{4} = -135$$

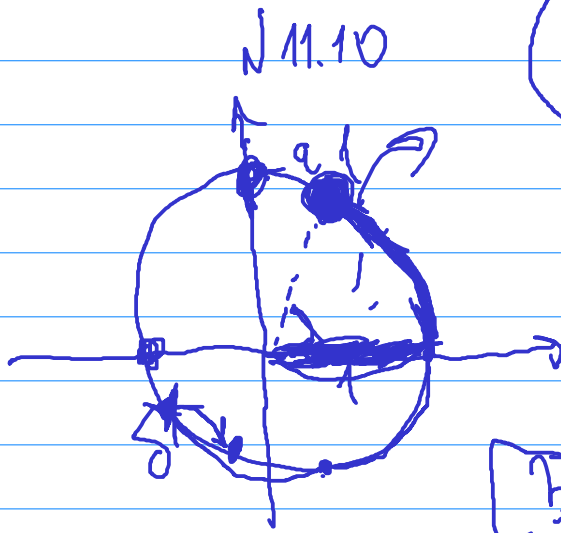


a) 1

b) -2

c) 3/5

d) 7



$$\frac{\pi}{2} \cdot \frac{3,14}{2} = 1,57$$

$$\frac{\pi}{3} \cdot \frac{3,14}{3}$$

$$\frac{\pi}{3} = \frac{2 \cdot 3,14}{3} \approx 2$$

$$\frac{3}{5}$$

$$\frac{9}{5}$$

$$\pi \cdot \frac{3,14}{10}$$

$$\frac{11\pi}{10}$$

$$\frac{11 \cdot 3,14}{10}$$

$$= 34,54$$

13.3

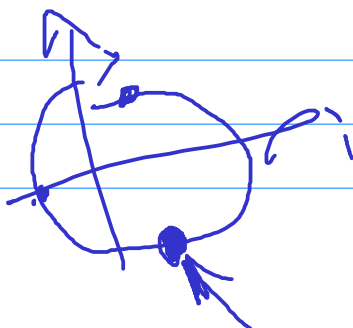
2)

$$\left( = -\frac{11\pi}{3} = \right)$$

$$= -2\pi - \frac{5\pi}{3} = -5\pi - \frac{2\pi}{3}$$

$$\sin\left(-5\pi - \frac{2\pi}{3}\right) = \sin\left(\frac{2\pi}{3}\right) =$$

$$-\frac{11\pi}{3} = -\frac{5\pi}{3} - 2\pi = \sin\left(-\pi + \frac{\pi}{3}\right) = -\sin\frac{\pi}{3} =$$



13.4 (b)

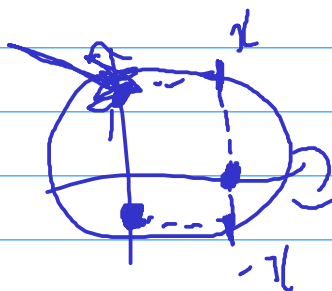


$$b) \sin\left(-\frac{\pi}{2}\right) \stackrel{\downarrow}{=} \underbrace{\cos(-\pi)}_{-1} + \underbrace{\sin\left(-\frac{3\pi}{2}\right)}_{1}$$

$$-1 - (-1) + 1 = 1$$

13.21

a)  $\sin(-x) = -\sin x$

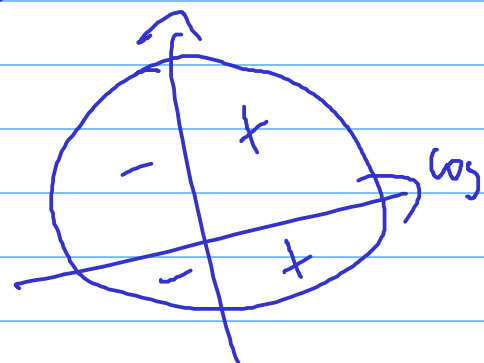
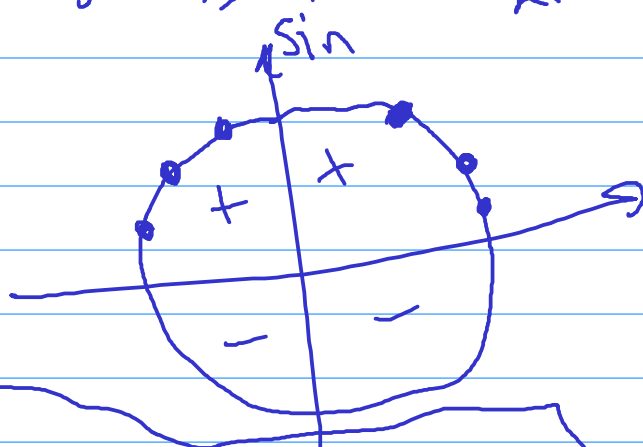


$$\sin(-x) = -\sin x$$

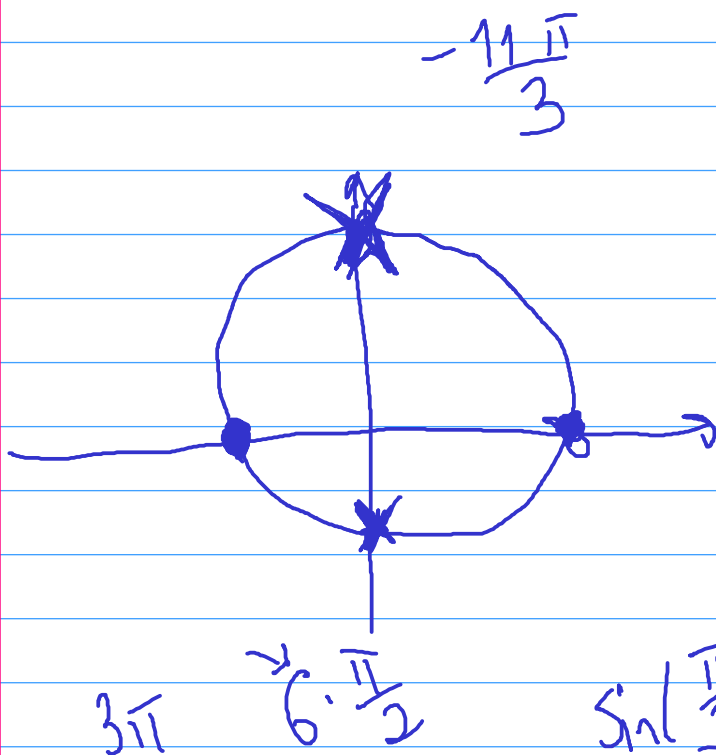
$$\cos(-x) = \cos x$$

$$- \frac{2 \cdot 3,14}{5} = -2 \cdot 1,07 = -2,14 \quad \begin{matrix} 1 & 2 \\ -2 \approx -\frac{2 \cdot \pi}{3} \end{matrix}$$

$$\sin(-2) \approx \sin\left(-\frac{2\pi}{3}\right)$$



Why: 3.21, 3.22



$$\sin\left(n \cdot \frac{\pi}{2} \pm \alpha\right)$$

$$\sin\left(\frac{\pi}{2} + \frac{\pi}{6}\right) = +\cos \frac{\pi}{6}$$

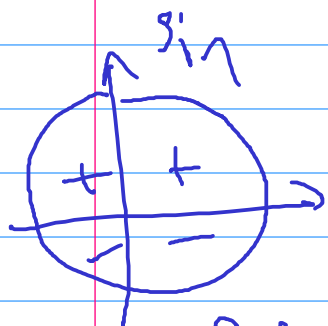
$$370 = 2\pi + \frac{\pi}{18} \quad \sin\left(2\pi + \frac{\pi}{18}\right) =$$

$$0 < \alpha < 90$$

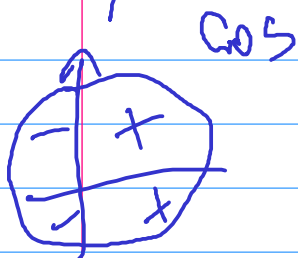
$$\frac{\pi}{2} \cdot 4 = 2\pi$$

$$= +\sin \frac{\pi}{18}$$

$$\cos(\pi + \alpha) = -\cos \alpha$$



$$\cos\left(\frac{3\pi}{2} + \alpha\right) = \sin \alpha$$



$$\operatorname{tg}\left(\frac{\pi}{2} + \alpha\right) = -\operatorname{ctg} \alpha$$

$$\operatorname{ctg}(\pi - \alpha) = -\operatorname{ctg} \alpha$$

$$\text{tg}\left(\frac{\pi}{2} - \frac{5\pi}{6}\right) =$$

$$-\pi + \frac{\pi}{6}$$

$$= \text{tg}\left(\frac{\pi}{2} - \pi + \frac{\pi}{6}\right) =$$

$$-\pi + \frac{\pi}{2}$$

$$= \text{tg}\left(-\frac{\pi}{2} + \frac{\pi}{6}\right) = -\text{ctg}\frac{\pi}{6} =$$

$$= -\sqrt{3}$$

